

WE CLAIM:

1. A kit of parts for aligning a drill axis of a dental drill head at a desired location in a selected patient's dental arch comprising:
a drill alignment arm for attaching to said dental drill head at
5 a specified drill head location, said drill alignment arm having a drill alignment arm pin, said drill alignment arm pin having a drill alignment arm pin axis, and
a stent, said stent adapted to fit said dental arch of said selected patient, said stent including a locating barrel, said locating barrel
10 having a bore adapted to receive and locate said drill alignment arm pin.
2. The kit of claim 1 wherein said locating barrel includes a depth control surface.
3. The kit of claim 2 further comprising at least one drill.
4. The kit of claim 4 wherein said at least one drill has a selected
15 drill length and said selected drill length and said depth control surface are correlated to limit the depth of a bore which may be drilled by said at least one drill when mounted in said drill head, to a desired depth.
5. The kit of claim 4 wherein said kit further comprises a plurality of drills, said drills having different diameters.
- 20 6. The kit of claim 5 further comprising a dental implant having an external bore and one of said drills is adapted to drill a bore of a size to accommodate said implant.
7. The kit of claim 6 wherein said kit further comprises a stent alignment arm, said stent alignment arm having a stent alignment arm
25 pin, said stent alignment arm pin having a stent alignment arm pin axis,

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and said stent alignment arm pin, is adapted to be received within said bore of said locating barrel.

8. The kit of claim 7 wherein said kit comprises a proxy implant, said proxy implant having a central bore, said central bore having a proxy axis.

9. The kit of claim 8 wherein said stent alignment arm comprises an alignment coping, said alignment coping having an alignment coping bore with an alignment coping bore axis.

10. The kit of claim 9 wherein said kit further comprises a retainer screw for fixedly aligning said alignment coping of said stent alignment arm, relative to said proxy implant with said alignment coping bore axis aligned with said proxy axis.

11. The kit of claim 10 wherein the distance between said alignment coping bore axis and said stent alignment arm pin axis is the same as the distance between said drill alignment arm pin axis and said drill axis when said drill alignment arm is fixed to said drill head.

12. The kit of claim 11 wherein said locating barrel includes a slot portion for removably receiving a portion of said stent alignment arm when said stent alignment arm pin is received within said bore of said locating barrel.

13. A method of creating an alignment device for guiding a dental drill head for drilling a bore having a desired axis in a desired location with respect to a selected patient's dental arch comprising the steps of:

25 taking an impression of said selected patient's dental arch, forming a cast dental arch from said impression,

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determining said desired location of said desired axis,
placing a proxy implant having a proxy axis in said cast dental arch so that said proxy axis is coincident with said desired location of said desired axis,

5 forming a stent of said selected patient's tooth crowns from said cast dental arch,

incorporating into said stent, a locating barrel, said locating barrel having a locating barrel axis, so that said locating barrel axis is spaced from said proxy axis by a first selected distance,

10 providing a drill alignment arm, said drill alignment arm, having fixing means for fixing said drill alignment arm to said dental drill head at a predetermined location, said dental drill head having a drill axis, said drill alignment arm having a drill alignment arm pin having a drill alignment arm pin axis,

15 and wherein said drill alignment arm pin is spaced from said drill axis by a second selected distance, and wherein said second selected distance is equal to said first selected distance.

14. The method of claim 13 further including the step of providing a depth control surface in said locating barrel.

20 15. The method of claim 14 including the step of providing at least one drill for use in said drill head and determining the length of said at least one drill so that a bore to be drilled along said desired axis at said desired location will be limited in depth by the depth control surface of said locating barrel.

25 16. A method for creating an alignment device for guiding a dental drill head for drilling a bore having a desired axis at a desired location comprising,

forming a cast dental arch from an impression made of a selected patient's mouth;

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determining a desired location in said cast dental arch for installation of a dental implant,

fixing a proxy implant in said cast dental arch at said desired location,

5 fixing a stent alignment arm with respect to said proxy implant, said stent alignment arm including a stent alignment arm pin,

placing a locating barrel on said stent alignment arm, so that said stent alignment arm pin is received within said locating barrel,

10 providing a stent made from the crowns of said dental arch, and incorporating said locating barrel in said stent,

providing a drill alignment arm, said drill alignment arm, having a drill alignment arm pin, said drill alignment arm pin being receivable within said bore of said locating barrel, and

15 providing fixation means on said drill alignment arm, for fixing said drill alignment arm to said drill head at a particular location.

17. The method of claim 16 further comprising providing said stent and said drill alignment arm, to a dental professional for drilling a bore having said desired axis at said desired location in said selected patient.

20 18. The method of claim 17 including the step of providing to said dental professional, at least one drill, said at least one drill having a predetermined length.

19. The method of claim 18 comprising the additional step of providing a depth control surface in said locating barrel.

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